

Notice of Allowability	Application No.	Applicant(s)	
	10/669,167	PAPPALARDO ET AL.	
	Examiner	Art Unit	
	Sameer Aghera	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/23/03.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☒ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ITALY TO2002A 000836.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 06/11/07.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>2/13/04</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input checked="" type="checkbox"/> Other <u>Marked up Figure 2</u>. |
|--|---|

REASONS FOR ALLOWANCE

1. Claims 1-16 are allowed.
2. The following is an examiner's statement of reasons for allowance: Claims 1-16 are allowable over the prior art of record since the cited reference taken individually or in combination fails to particularly disclose the following italic limitations.

Regarding claim 1, *determining the antipodal digits of said channelization codes according to the binary digits of the corresponding indices I by implementing the following: a) determining intermediate binary digits:*

$$U_0 = X$$

$$U_i = U_{i-1} \oplus I_{BK}$$

where:

$$1 \leq i \leq 2^N - 1$$

$$k = \text{INT}[\log_2 i], 0 \leq k \leq N-1$$

I_{BK} are the binary digits of the indices I of said channelization codes, X is a binary encoding digit, a value of which depends upon a type of binary encoding chosen for the antipodal digits of the channelization codes, and \oplus represents logic operation EXOR and in combination with other limitations recited as specified in claim 1.

Regarding claim 4, *processing means for determining the antipodal digits of said channelization codes according to the binary digits of the corresponding indices I, said processing means including: a) computation means for receiving the binary digits I_{BK} , with $0 \leq k \leq N-1$, of the indices I of said channelization codes and a binary encoding digit*

X, a value of which depends upon a type of binary encoding chosen for the antipodal digits of the channelization codes, and for supplying intermediate binary digits:

$$\begin{aligned}U_0 &= X \\ U_i &= U_{i-2} \oplus I_{Bk} \\ \text{where:} \\ 1 \leq i \leq 2^N - 1 \\ k &= \text{INT}[\log_2 i], 0 \leq k \leq N-1\end{aligned}$$

\oplus represents logic operation EXOR and in combination with other limitations recited as specified in claim 4.

Regarding claim 7, a processor to determine the antipodal digits of the channelization codes according to the binary digits of the corresponding indices I , the processor having: a) a computation unit to receiving the binary digits I_{Bk} , with $0 \leq k \leq N-1$, of the indices I of said channelization codes and a binary encoding digit X , a value of which depends upon a type of binary encoding chosen for the antipodal digits of the channelization codes, and for supplying intermediate binary digits:

$$\begin{aligned}U_0 &= X \\ U_i &= U_{i-2} \oplus I_{Bk} \\ \text{where:} \\ 1 \leq i \leq 2^N - 1 \\ k &= \text{INT}[\log_2 i], 0 \leq k \leq N-1\end{aligned}$$

\oplus represents logic operation EXOR and in combination with other limitations recited as specified in claim 7.

The closest prior art Ozukturk (6,885,652 B1) discloses a CDMA communication system. In the preferred embodiment, the invention includes a CDMA modem which is

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further broken down into a code generator to produce orthogonal codes. Regarding **claim 1**, Ozukturk discloses encoding the antipodal digits (see "antipodal sequence," col. 22, line 18) for the channelization code according to the binary digits (see "0 maps into +1...", col. 22, lines 18-19) and using an EXOR operation (see Table 5a, cols. 22-23) to calculate the codes (see "spreading code sequences," col. 22, lines 52-53).

Regarding **claim 4**, Ozukturk discloses processing means (see Figure 2A) for encoding the antipodal digits (see "antipodal sequence," col. 22, line 18) for the channelization code according to the binary digits (see "0 maps into +1...", col. 22, lines 18-19) and using an EXOR operation (see Table 5a, cols. 22-23) to calculate the codes (see "spreading code sequences," col. 22, lines 52-53). Regarding **claim 7**, Ozukturk discloses a processor (see Figure 2A) for encoding the antipodal digits (see "antipodal sequence," col. 22, line 18) for the channelization code according to the binary digits (see "0 maps into +1...", col. 22, lines 18-19) and using an EXOR operation (see Table 5a, cols. 22-23) to calculate the codes (see "spreading code sequences," col. 22, lines 52-53).

However, Ozukturk fails to disclose or render obvious the above *italic* limitation as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dennis De Guzman on June 7th, 2007.

The application has been amended as follows:

In claim 1, line 1 after "A method for parallel generating channelization codes," delete "such as," insert –including--.

In claim 4, line 2 after "codes for CDMA transmissions," delete "such as," insert –including--.

The following changes to the drawings have been approved by the examiner and agreed upon by applicant: Figure 2 should be labeled as prior art. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer Aghera whose telephone number is 571-272-9744. The examiner can normally be reached on M-F 7:30 AM to 5 PM; Off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA

Sameer Aghera

KWANG BIN YAO
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Kwang Bin Yao', is written over the printed name and title.

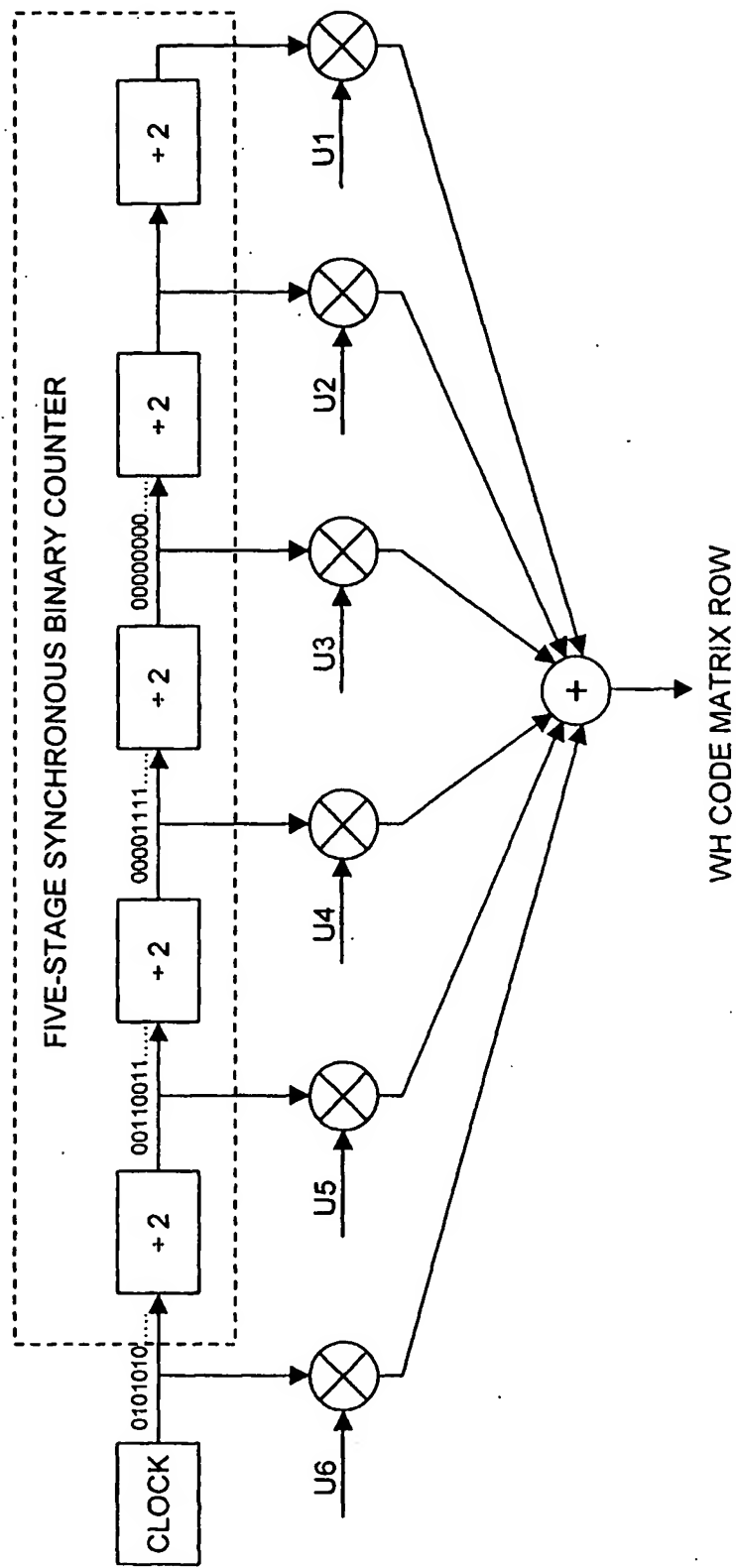


Fig.2

64-ARY SEQUENCE GENERATOR

Prior Art